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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,304	12/12/2003	Hiroyuki Urakami	041514-5318	7325

55694 7590 01/04/2007  
DRINKER BIDDLE & REATH (DC)  
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WASHINGTON, DC 20005-1209

EXAMINER
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SHERMAN, STEPHEN G

ART UNIT	PAPER NUMBER
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2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/733,304

Applicant(s)

URAKAMI ET AL.

Examiner

Stephen G. Sherman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-6 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. This office action is in response to the amendment filed the 15 November 2006.  
Claims 1-6 are pending.

### *Response to Arguments*

2. Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Honda et al. (US 2002/0030672).

**Regarding claims 1**, Honda et al. disclose a display device including a display panel (Figure 1), wherein each field of an image signal is divided into a plurality of subfields, the display panel includes a plurality of pixel cells for each pixel, and gray

scale display is performed by based on the selectively causing emission in the pixel cells image signal for each of the subfields (Paragraph [0031]-[0032] explain that pixel cells are provided. Figure 3 and paragraph [0036] explain about all of the possible luminance values and paragraph [0048] explains how the luminance values are associated with subfields.), the display device comprising:

a brightness frequency data circuit for generating frequency data indicating a number of pixels at each of the same brightnesses in a brightness distribution for each field of the image signal (Figures 1 and 2 and paragraphs [0036]-[0040] and [0042]-[0045] explain that according to pixel data, the 1H line luminance distribution analyzing circuit 3 creates accumulated frequency data and a luminance distribution.); and,

a controller for adjusting, for each of at least two brightness regions, the number of subfields for emission at each brightness within each brightness region, based on the frequency data of the pixels concerned (Figure 4 and paragraphs [0047]-[0048] explain that the drive control circuit 2 sets a driving sequence based on the accumulated frequency data, and that the number of subfields used depends on the patterns shown in Figure 4, where 10 subfields are used if full luminance is needed as shown in the region of pattern A, and 5 subfields are used for patterns B, C and D where the brightness regions are between 0 and 128, 64 and 192, and 128 and 255 respectively.).

**Regarding claim 2,** Honda et al. disclose the display device according to Claim 1, wherein the controller increases the number of the subfields used for the brightness region when a number indicated by the brightness frequency data is larger than a

predetermined value (Figure 4 shows that when the frequency data indicates that the brightnesses needed exceed the thresholds of the limitations set by patterns B, C and D, that pattern A is used, which requires more subfields than the other patterns as explained by paragraph [0048].).

**Regarding claim 3**, Honda et al. disclose the display device according to Claim 1, wherein the greater a number of the subfields used for the brightness region, the more the controller shortens a period of emission of the pixel cells performed in each subfield (Figure 24 shows that when only 5 subfields are used as shown in (b) the period for emission is longer for SF5 than in the period for emission for SF5 as shown in (a) where there are 10 subfields.).

***Allowable Subject Matter***

5. Claims 4-6 are allowed.
6. The following is an examiner's statement of reasons for allowance:

The primary reason for allowance is the recitation of the "brightness frequency data circuit," "logarithmic conversion circuit," "clipping circuit," "cumulative brightness frequency data circuit," and the "delimiter value generation circuit" all working in

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conjunction with each other to produce the values which allow for the driving of the pixels, the structure not found singularly or in combination in the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

27 December 2006

AMR A. AWAD  
SUPERVISORY PATENT EXAMINER  
